

B<sub>1</sub>  
heating said semiconductor film with said continuous layer being in contact with said portion of said semiconductor film in order to crystallize a region of said semiconductor film around said portion; and then

irradiating said semiconductor film with light with said catalyst being diffused in the crystallized region of said semiconductor film in order to improve the crystallinity of said semiconductor film.

---

Please add claims 2-18 as follows:

---

--2. The method of claim 1 wherein said semiconductor film has a thickness of 100 Å to 1500Å.

3. The method of claim 1 wherein said light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, an ArF excimer laser light and a XeF excimer laser light.

B<sub>2</sub>  
4. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon in contact with a silicon nitride film, said semiconductor film being formed on a substrate;

forming a continuous layer of a material including a catalyst capable of promoting a crystallization of silicon onto at least a portion of said semiconductor film;

heating said semiconductor film with said continuous layer being in contact with said portion of said semiconductor film in order to crystallize a region of said semiconductor film around said portion; and then

irradiating said semiconductor film with light with said catalyst being diffused in the crystallized region of said semiconductor film in order to improve the crystallinity of said semiconductor film,

wherein said substrate is heated at a temperature of 200°C to 450°C during said irradiating step.

5. The method of claim 4 wherein said semiconductor film has a thickness of 100 Å to 1500Å.

6. The method of claim 4 wherein said light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, an ArF excimer laser light and a XeF excimer laser light.

7. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon in contact with a silicon nitride film;

forming a continuous layer of a material including a catalyst capable of promoting a crystallization of silicon onto at least a portion of said semiconductor film;

heating said semiconductor film at a temperature of 550°C to 600°C with said continuous layer being in contact with said portion of said semiconductor film in order to crystallize a region of said semiconductor film around said portion; and then

irradiating said semiconductor film with light with said catalyst being diffused in the crystallized region of said semiconductor film in order to

improve the crystallinity of said semiconductor film.

8. The method of claim 7 wherein said semiconductor film has a thickness of 100 Å to 1500Å.

9. The method of claim 7 wherein said light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, an ArF excimer laser light and a XeF excimer laser light.

10. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon;

forming a material including a catalyst capable of promoting a crystallization of silicon onto at least one portion of said semiconductor film;

heating said semiconductor film with said material being in contact with said one portion of said semiconductor film in order to laterally crystallize a region of said semiconductor film around and from said one portion; and then

irradiating said semiconductor film with light with said catalyst being diffused in the crystallized region of said semiconductor film in order to improve the crystallinity of said semiconductor film,

wherein at least two thin film transistors are formed in said region laterally crystallized from said one portion.

11. The method of claim 10 wherein said semiconductor film has a thickness of 100 Å to 1500Å.

12. The method of claim 10 wherein said light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, an ArF excimer laser light and a XeF excimer laser light.

13. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon;

forming a material including a catalyst capable of promoting a crystallization of silicon onto at least one portion of said semiconductor film;

heating said semiconductor film with said material being in contact with said one portion of said semiconductor film in order to laterally crystallize a region of said semiconductor film around said portion;

irradiating said semiconductor film with light after said heating step with said catalyst being diffused in the crystallized region of said semiconductor film in order to improve the crystallinity of said semiconductor film; and

forming at least two thin film transistors from the laterally crystallized region of said semiconductor film after said irradiating step so that a direction in which a carrier moves in a channel of each of said two thin film transistors is parallel to a direction of the lateral crystallization of said region of said semiconductor film.

14. The method of claim 13 wherein said semiconductor film has a thickness of 100 Å to 1500Å.

15. The method of claim 13 wherein said light is a laser light

selected from the group consisting of a KrF excimer laser light, a XeCl excimer laser light, an ArF excimer laser light and a XeF excimer laser light.

16. A method of manufacturing a semiconductor device comprising the steps of:

forming a semiconductor film comprising silicon;

forming a material including a catalyst capable of promoting a crystallization of silicon onto at least one portion of said semiconductor film;

heating said semiconductor film with said material being in contact with said one portion of said semiconductor film in order to laterally crystallize a region of said semiconductor film around said portion;

irradiating said semiconductor film with light after said heating step with said catalyst being diffused in the crystallized region of said semiconductor film in order to improve the crystallinity of said semiconductor film; and

forming at least two thin film transistors from the laterally crystallized region of said semiconductor film after said irradiating step so that a direction in which a carrier moves in a channel of each of said two thin film transistors is perpendicular to a direction of the lateral crystallization of said region of said semiconductor film.

17. The method of claim 16 wherein said semiconductor film has a thickness of 100 Å to 1500 Å.

18. The method of claim 16 wherein said light is a laser light selected from the group consisting of a KrF excimer laser light, a XeCl